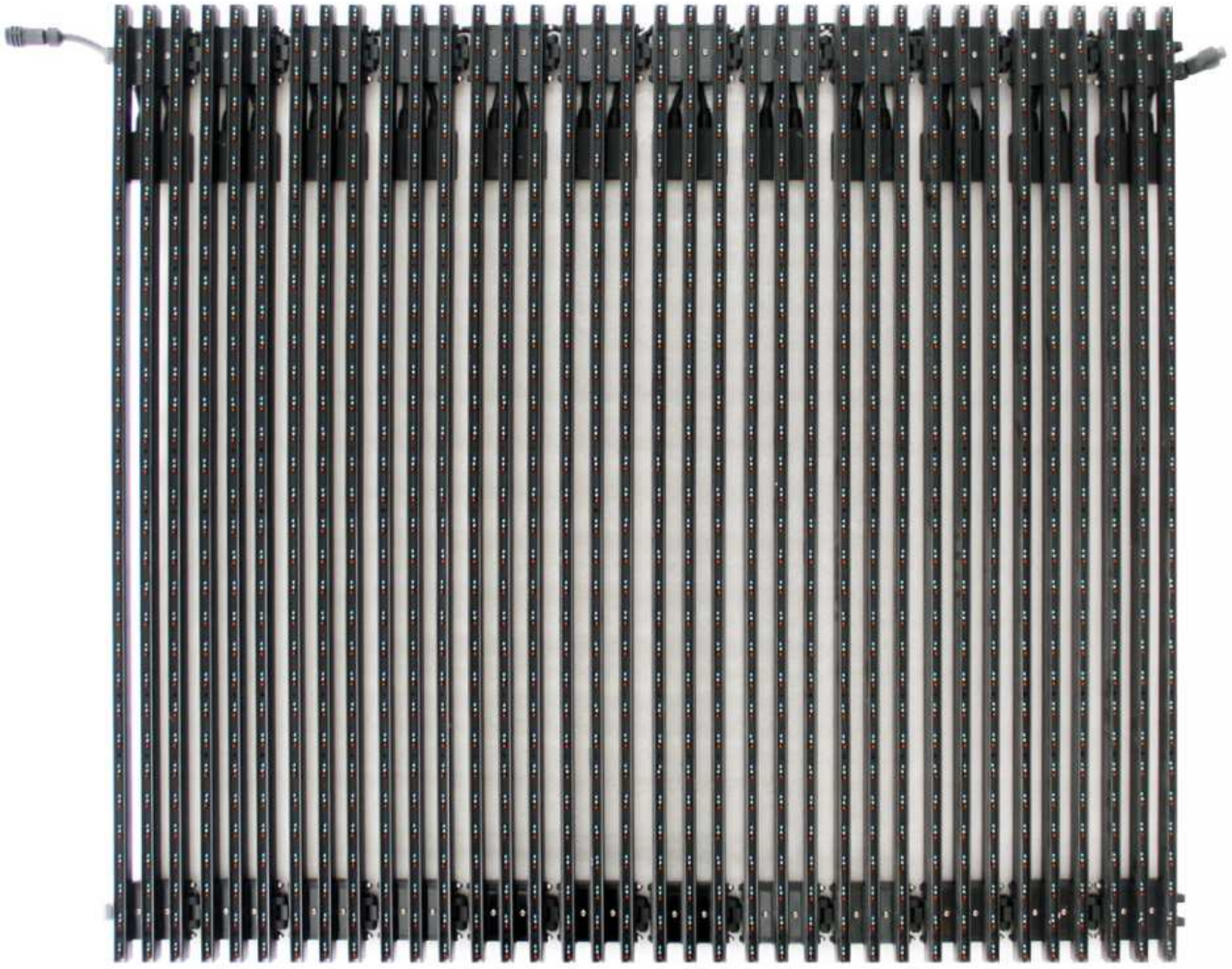
IMPOSA Velo V



User’s Manual

Content

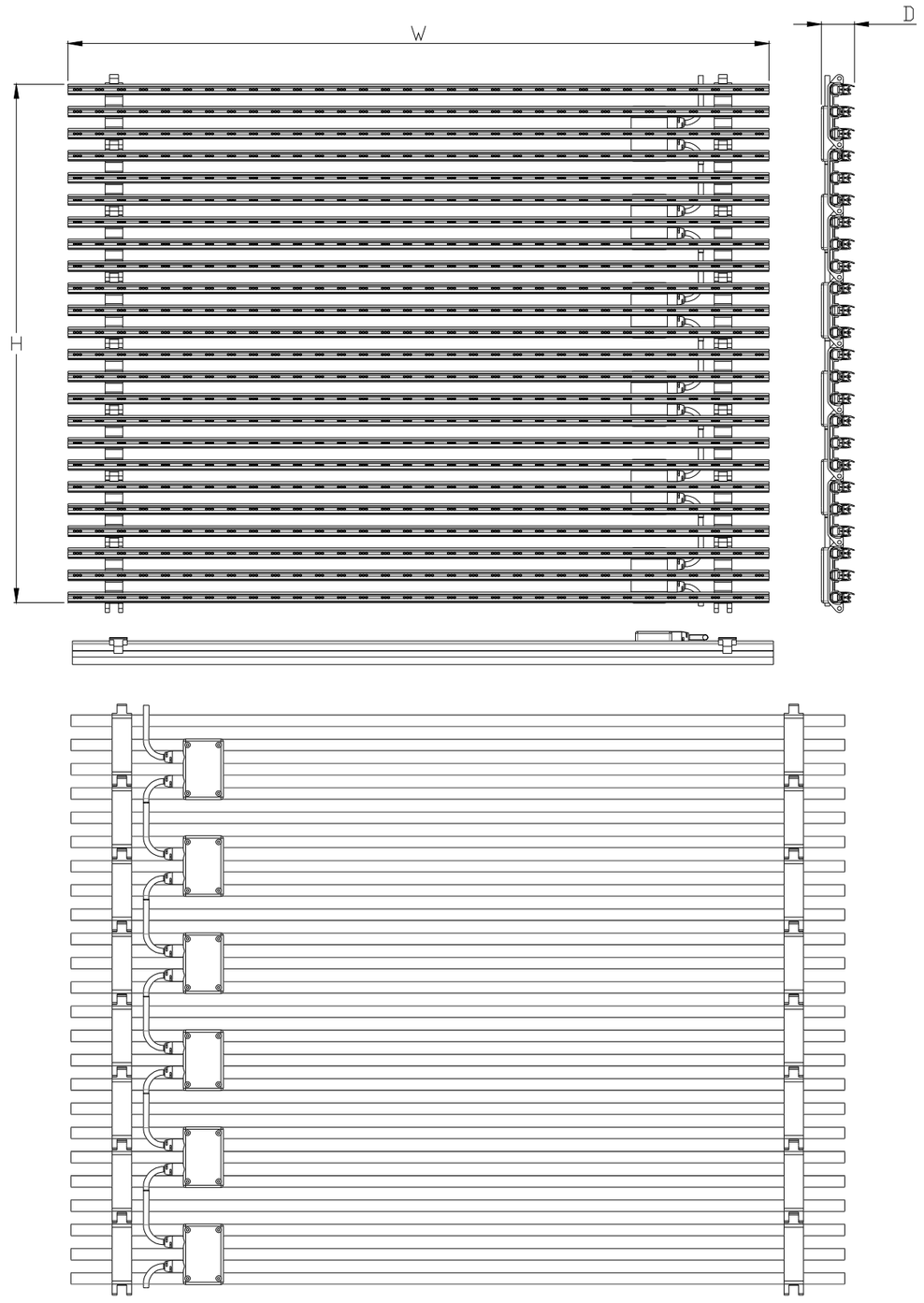
1 Tile introduction.....4
1.1 Specification.....4
1.2 Components introduction.....6
1.2.1 Power box.....6
1.2.2 Hub box（HUB）.....6
1.2.3 VPU2000.....7
1.2.4 Bar Tiles.....8
1.2.5 Cables.....9
1.3 Hardware connection.....12
1.3.1 Tiles connection.....12
1.3.2 Power connection.....17
1.3.3 Signal connection.....20
1.4 VPU2000 connection.....20
1.5 PC Parameters setting.....22
2 LDU2000 software setting.....24
2.1 Coordinate setting of regular display.....24
2.2 Coordinate setting of irregular display.....27
2.3 Installation and setting for irregular display.....29
2.4 Brightness adjustment.....34
2.5 Color temperature adjustment.....34

Update record

Version	Modified content	modifier	Modified time
Ver1.0	First version	WJF、ZWJ	2013-08-01

1 Tile introduction

1.1 Specification



Specifications of imposa™ Velo V Displays

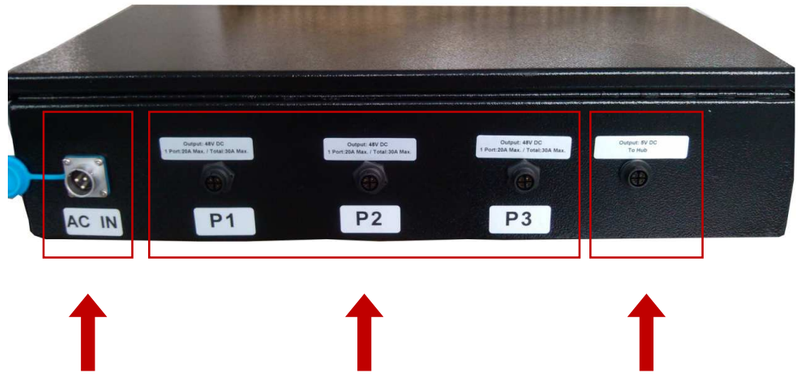
Model	VFO31.25	VFO62.5	VFO31.25	VFO62.5
Pixel Pitch	31.25mm	62.5mm	31.25mm	62.5mm
Pixel Configuration	1R1G1B	1R1G1B	3 in 1 SMD	3 in 1 SMD
Strip Information				
Resolution of Strip (pixel) (HXW)	3X32	2X24	3X32	2X24
Size of Strip (mm)(HXWXD)	77.4x1000x46.9	77.4x1500x46.9	77.4x1000x36.4	77.4x1500x36.4
Module Information				
Resolution of Module(pixel) (HXW)	36X32	20X24	36X32	20X24
Size of Module(mm)(HXWXD)	1125x1000x46.9	1250x1500x46.9	1125x1000x36.4	1250x1500x36.4
Display Information				
Power Consumption (W/㎡)	280	70	280	70
Brightness(cd/㎡)	＞6000	＞1500	＞2000	＞1000
Viewing Angle	110°/ 50°		120°/120°	80°/80°
IP Rate	IP66			
Grey Level	16 bit Per Color			
Frame Frequency(Hz)	＞60			
Refresh Frequency(Hz)	＞3000			
Brightness Control	100			
Nominal LED Working Life	Up to 100,000 Hours			

1.2 Components instruction

1.2.1 Power box

Power boxes provide the curtain display with power. Inside the power box, there are 3 48V/1000W switching power supplies. It's equipped with 4 output ports, 3 ports supplying power for LED bar tiles and 1 port supplying power for hub boxes.

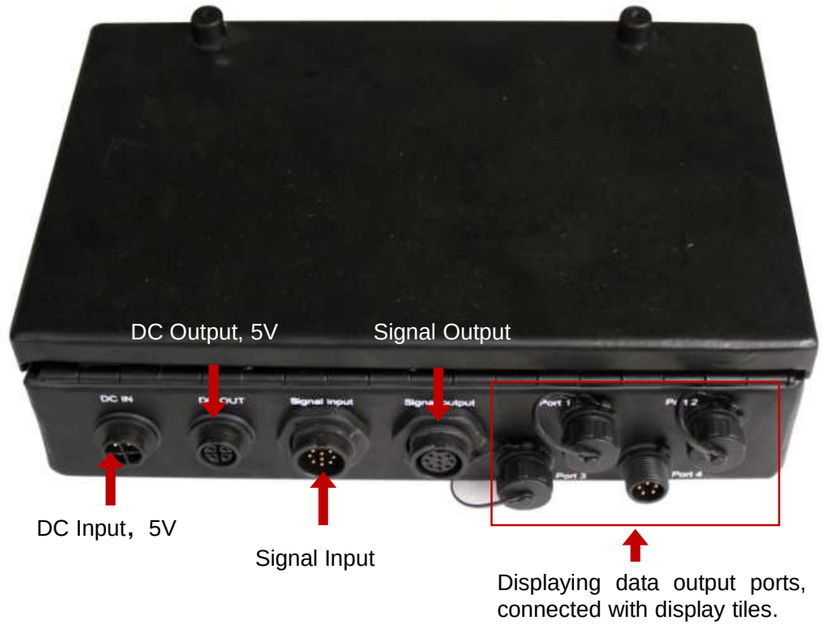
➢ Size (LXWLD): 520x500x120mm. Size is shown as below figure.



1.2.2 Hub box

Hub box is a device used to receive data from LDU2000 and distribute these data to all display tiles. There are 4 data output ports, 1 DC input port, 1 DC output port, 1 Signal input port and 1 Signal output port for each hub box.

➢ Size (LXWXD): 240x150x70mm. Size is shown as the below figure.



1.2.3 VPU2000

VPU is the main control for curtain display, which is used to transfer the PC displaying content into specific data and deliver these data to hub boxes. Detailed specifications and parameters are as followed.

Item	Parameters and specifications
Input	DVI signals Max. Resolution:1920x1080@60Hz
Output	2 RJ45 ports Max. control pixels of each port: 1920x340
Max. control pixels	1920x680
Communication	USB
Power supply	Input：100-240 VAC, 50-60 Hz Power consumption: 10 W
Working temperature	-20~60 ℃
Working Humidity	0-95%
Size(WxHxD)	483x59x333 mm

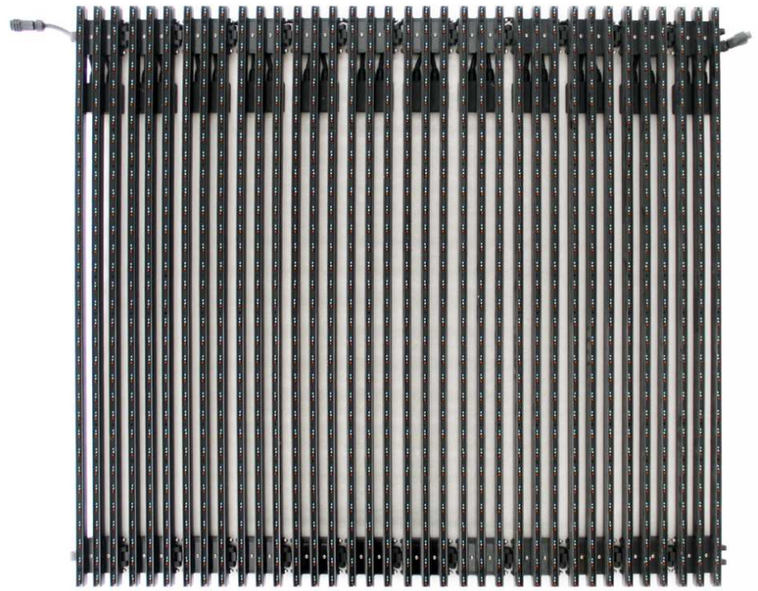
- Front view of VPU2000

- Rear view of VPU2000

1.2.4 Bar tiles

A bar tile is the displaying unit of curtain display, which consists of 10 or 12 strips, as the following figure shows.

- Front view of one bar tile (12 strips)



- Rear view of one bar tile (12 strips)

Curtain display enjoys great flexibility. It can be rolled up to move it, as the following figure shows.

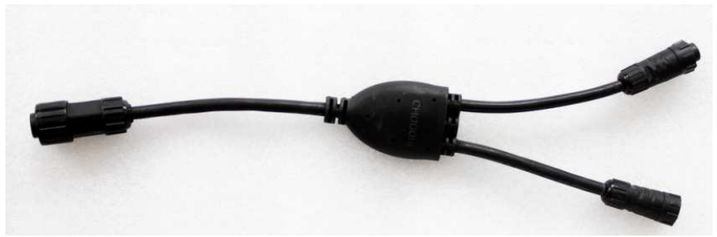
Connector of bar tiles adopts the design of data and power sharing one connector, as the following figure shows.

Power input connector of bar data

Power output connector of bar data

1.2.5 Cables

- Two-in-one joint cable

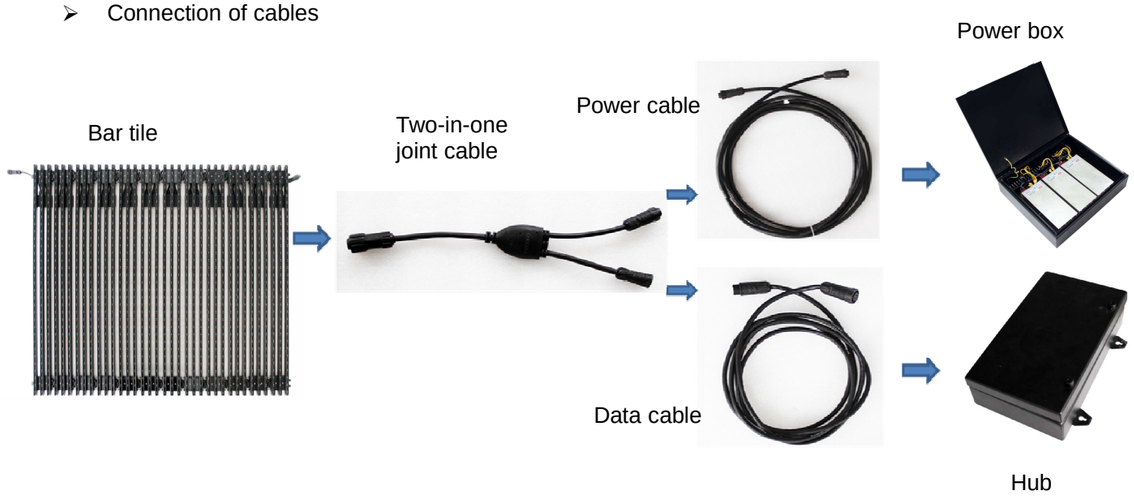


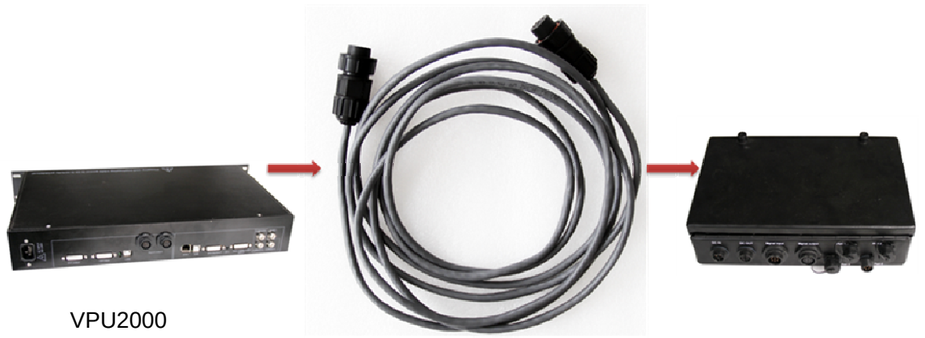
- Power cable

- Data cable

- Signal cable

➢ Connection of cables





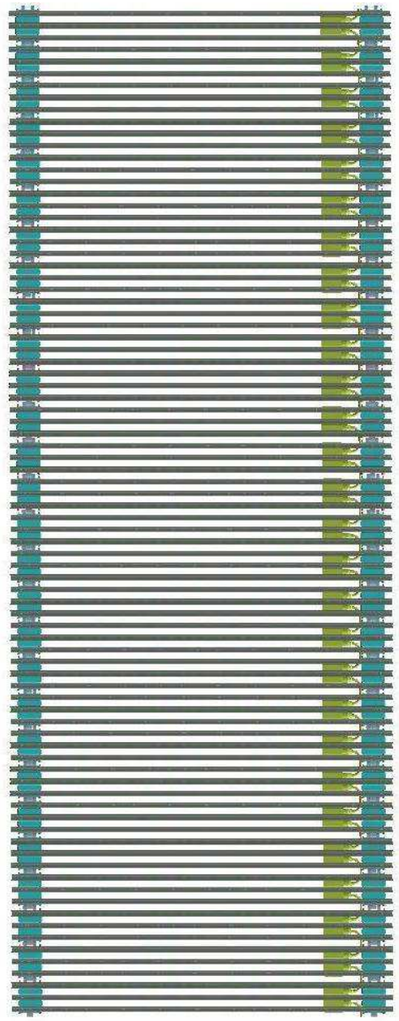
1.3 Hardware connection

1.3.1 Connection of tiles

➢ Strips are connected by chain pin shafts, as the below figure shows.

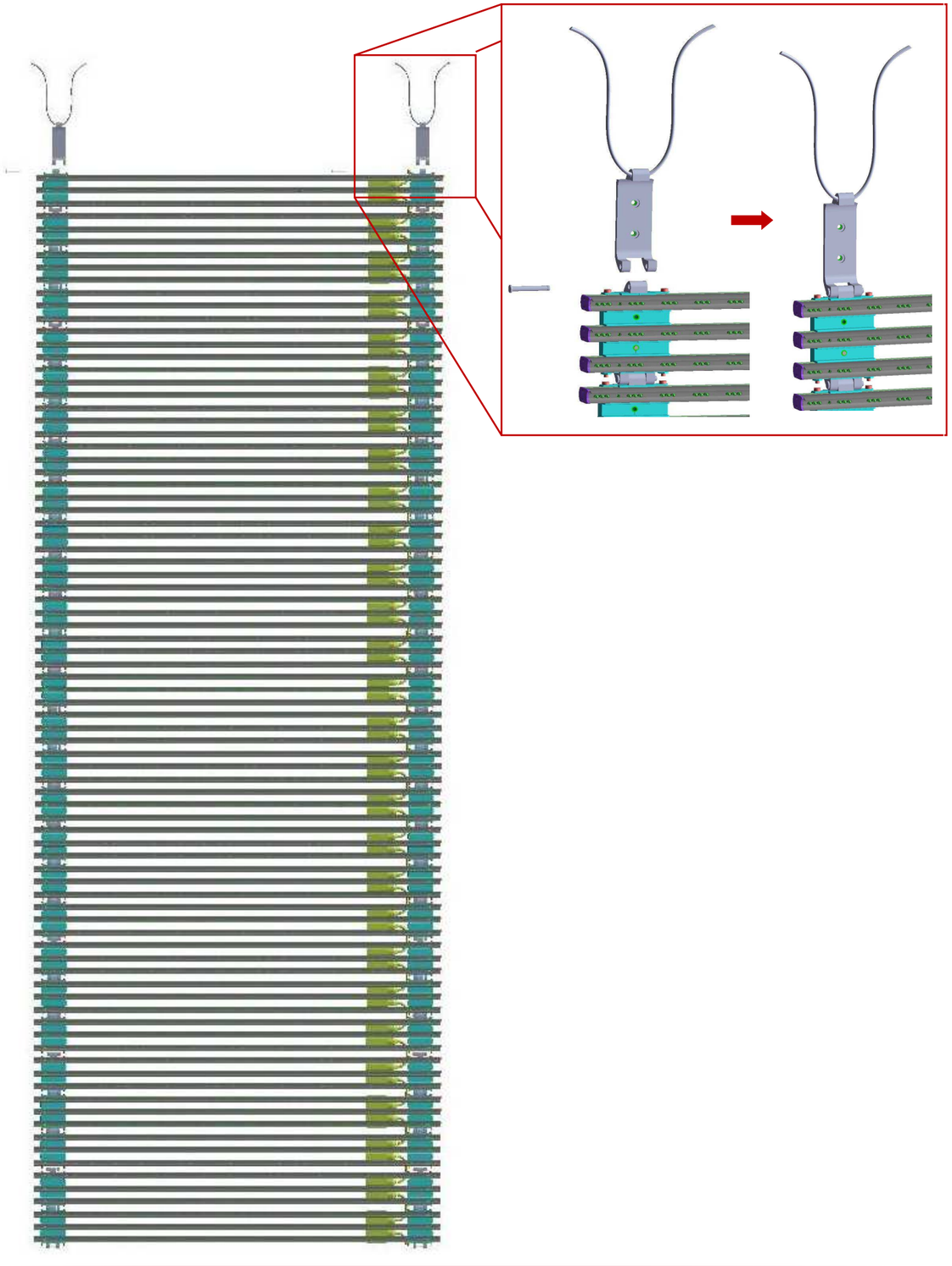
Drawing of one tile when bar connection is finished:

- Connect the tiles into one column in the same way. Number of tiles is subject to the real display pixels.



Special note: Above figures show how to connect tiles in series with chain pin shafts. **But signal cables and power cables are not connected one by one in series. Connection of signal cables and power cables will be introduced later.**

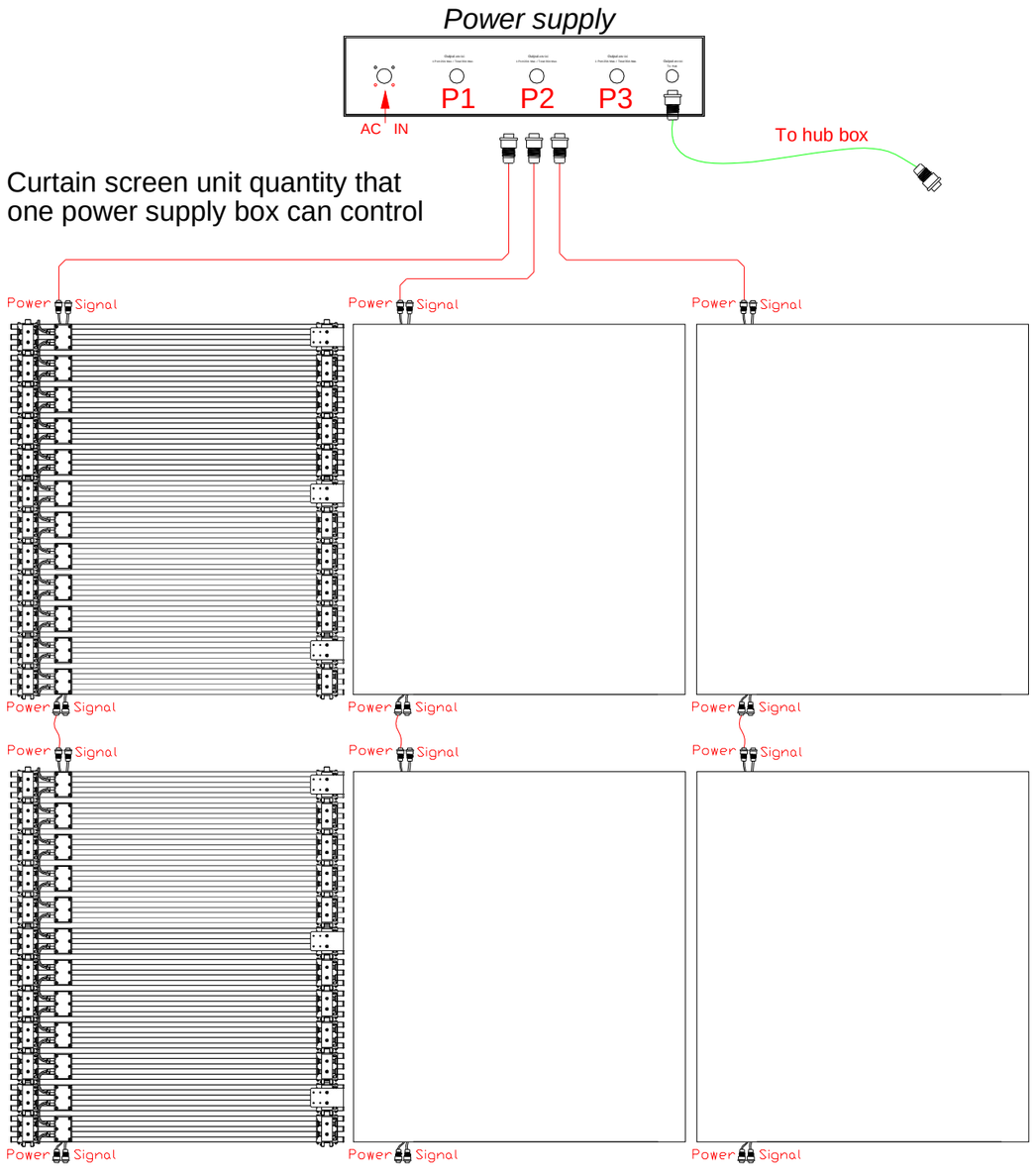
➢ Hang and install the display with chain pin shafts and chain hooks, as the following figure shows.

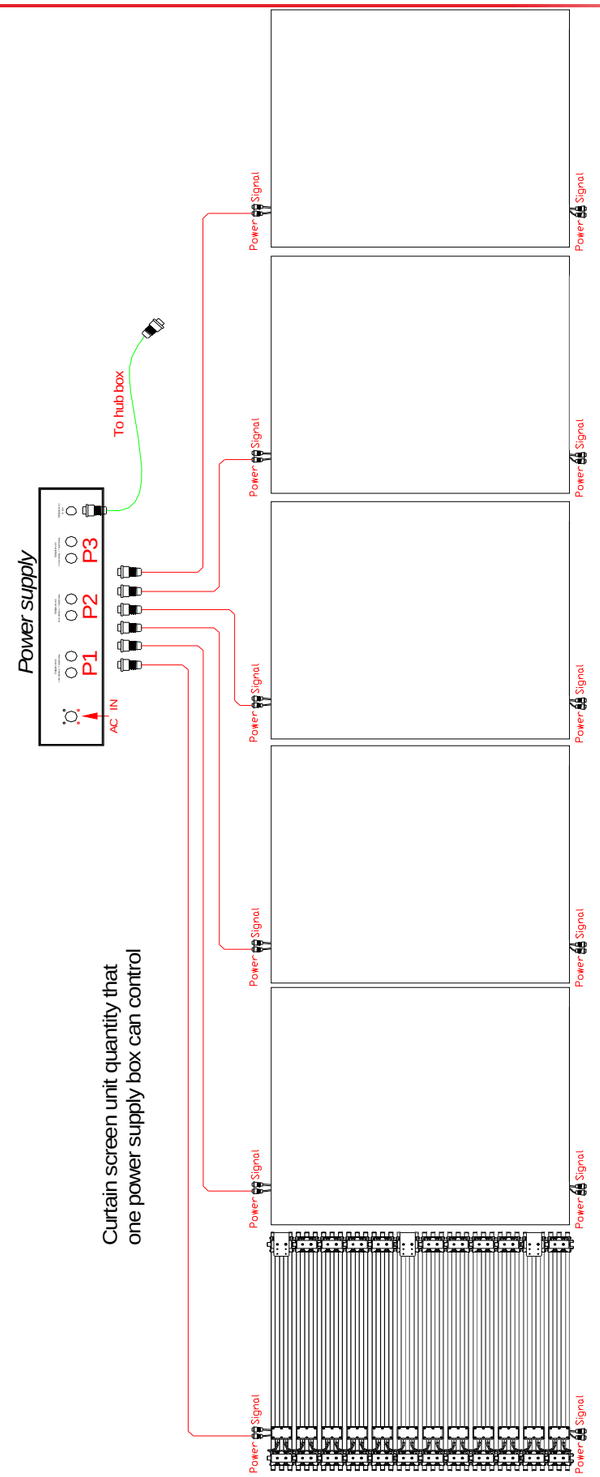


➢ Hang and install all columns of tiles one by one. Drawing of the whole display is shown as the following figure.

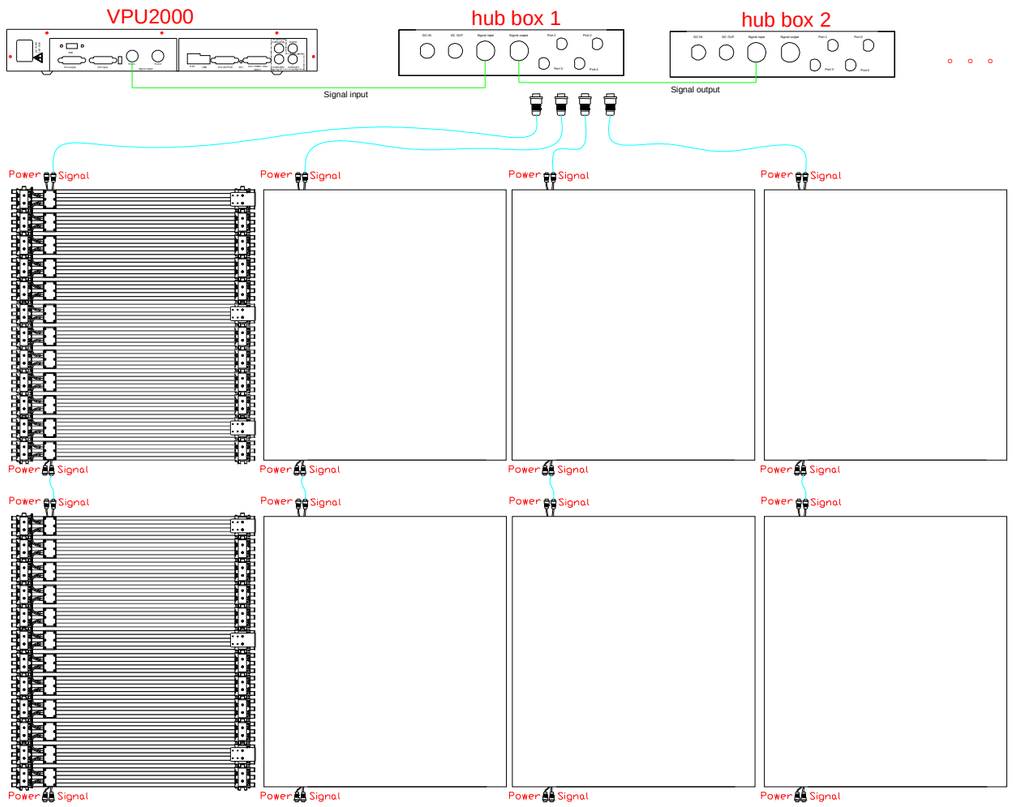
1.3.2 Power connection

One power box can be connected to 6 tiles. There are two connecting ways, as the following figure shows.




Power supply
P1
P2
P3
AC IN
To hub box
Power
Signal
Curtain screen unit quantity that
one power supply box can control

1.3.3 Signal connection

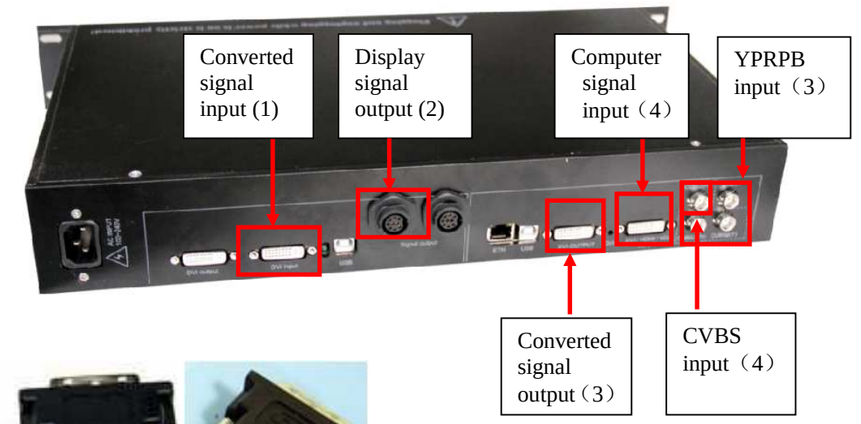


Curtain screen unit quantity
that one hub box can control

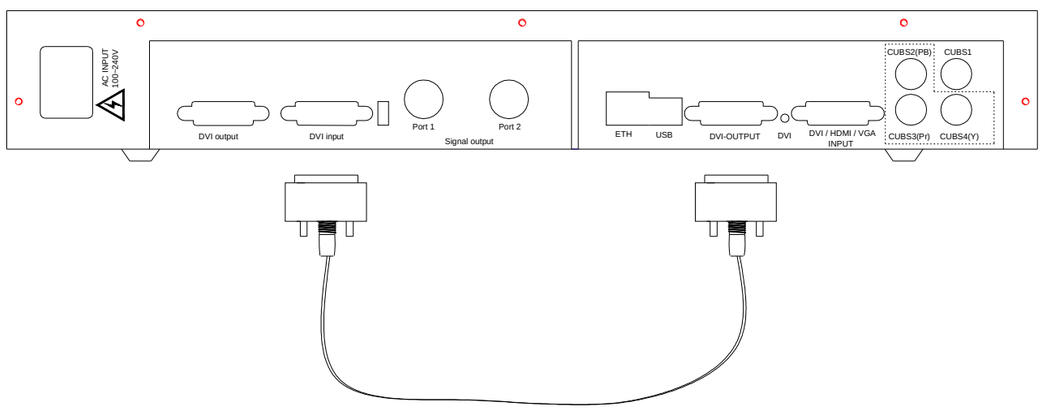
（Notes: For detailed pictures, please refer to the attached files）

1. 4 VPU2000 connection

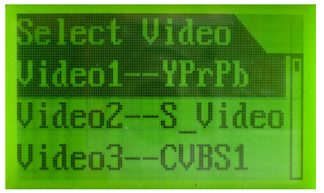
Connect PC to VPU with DVI cable（connector 4）;
Connect the connector 1 to connector 3 on VPU with another DVI cable;
Connect the VPU (connector 2) with the control box with 9 Pin D Connector;
Connect the DVD to the 4 metal ports on the right, of which CVBS signal should connect to any one of the 4 ports, while YPRPB signal should connect to the 3 ports outermost.



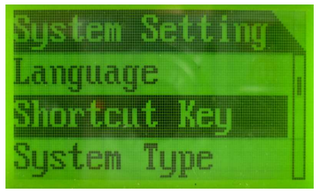
The connection of VPU of synchronous playing（not include the PC and DVD part）



After the connection, turn on the VPU to set the video sources;
The setting steps: MENU > SELECT VIDEO > （choose the signal format of corresponding video source），press the buttons to choose the right video input sources according to the connecting video signals.



The setting of shortcut key of video sources
Shortcut steps: In the working interface, press "select" to enter the menu; press the button up and down to choose "system setting" menu, press "select" to enter the system setting, choose "shortcut", then you can define the video sources of the shortcut keys "Video1", "Video2", "Video3" and "Video4" in the "shortcut" menu. Then you can switch the current video source input with the shortcut key on control board.



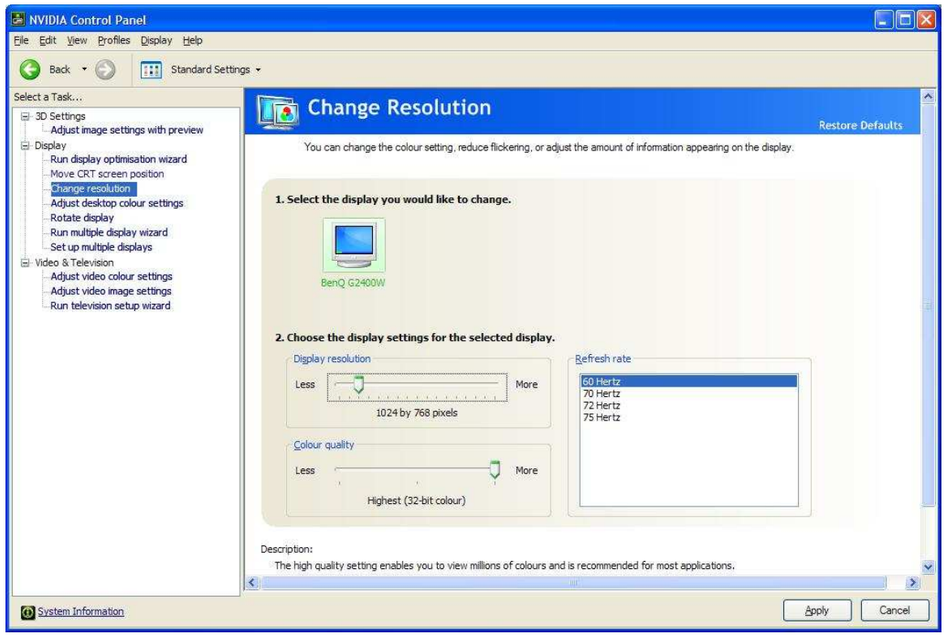
Notes: When choosing the CVBS signals, you must choose the right CVBS according to the number of the port, that's: connector 1 should choose CVBS1; connector 2 should choose CVBS2.

1. 5 PC parameters setting

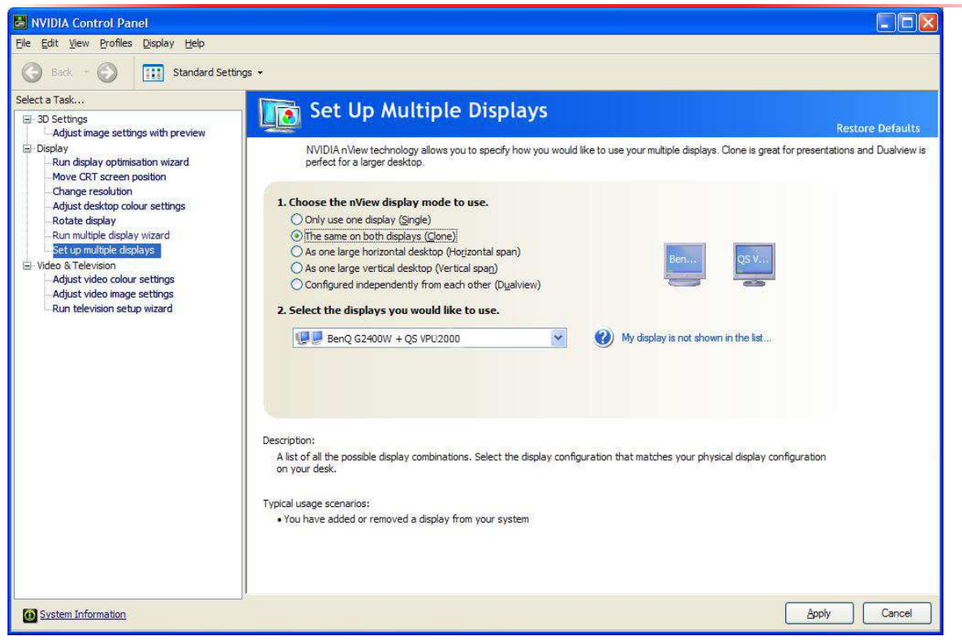
Notes: We recommend you to use the display card with NVIDIA chip.

Before setting the display, connect the computer to the VPU2000.

And then set the resolution of the display card as 1920X1080 pixels, set the color quality as 32-bit color, and set the refresh rate as 60 Hz.



Set the display mode as "same on two display (copy mode)"


NVIDIA Control Panel
File Edit View Profiles Display Help
Back
Standard Settings
Select a Task...
3D Settings
Adjust image settings with preview
Display
Run display optimisation wizard
Move CRT screen position
Change resolution
Adjust desktop colour settings
Rotate display
Run multiple display wizard
Set up multiple displays
Video & Television
Adjust video colour settings
Adjust video image settings
Run television setup wizard
Set Up Multiple Displays
Restore Defaults
NVIDIA nView technology allows you to specify how you would like to use your multiple displays. Clone is great for presentations and Dualview is perfect for a larger desktop.
1. Choose the nView display mode to use.
Only use one display (Single)
The same on both displays (Clone)
As one large horizontal desktop (Horizontal span)
As one large vertical desktop (Vertical span)
Configured independently from each other (Dualview)
Ben...
QS V...
2. Select the displays you would like to use.
BenQ G2400W + QS VPU2000
My display is not shown in the list...
Description:
A list of all the possible display combinations. Select the display configuration that matches your physical display configuration on your desk.
Typical usage scenarios:
• You have added or removed a display from your system
System Information
Apply
Cancel

2 LDU2000 software setting

Set up the software Imposa Tools，click Tool > LDU2000 Setting.

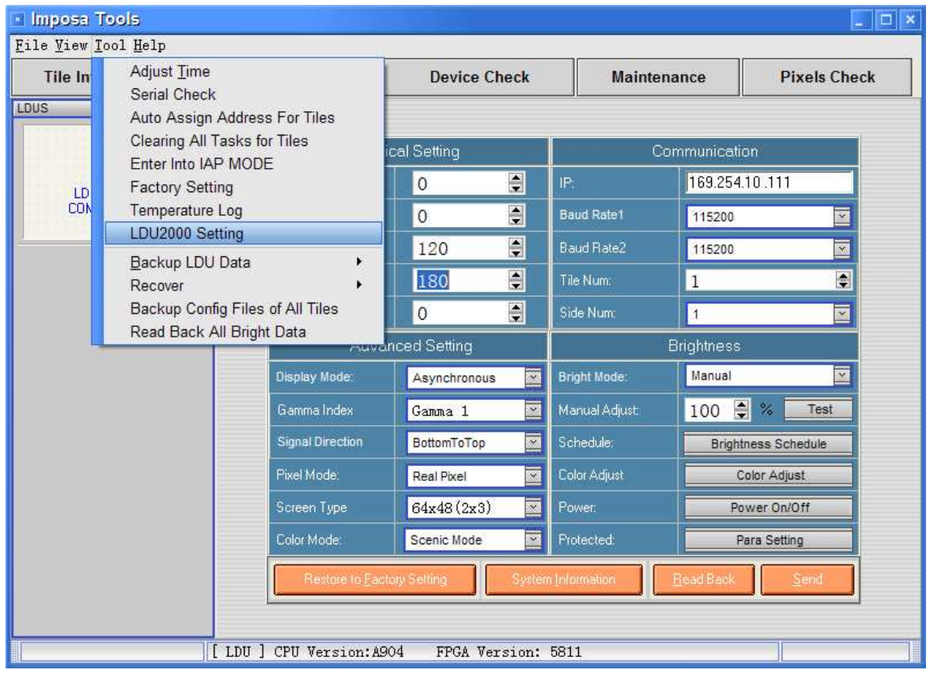


Image 2.1

2.1 Coordinate setting of regular display

The maximum pixel number a hub box can control is 128x72 (WXH). When a display is arranged into a regular rectangle, such as display with 608X252 (WXH) pixels, distribution situation of hub boxes and control pixels of each hub box are shown as the following figure.

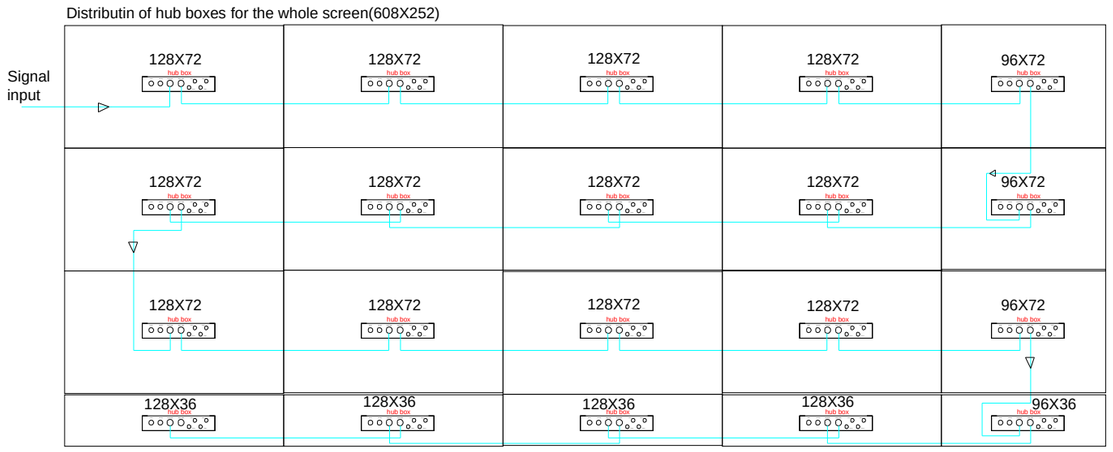


Image 2.2
example of regular display

Signal trend is shown as the following figure.

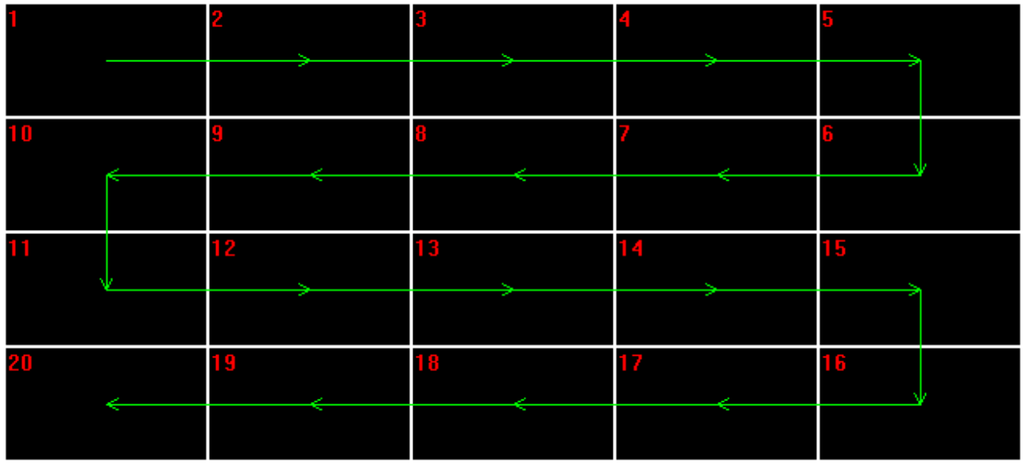


Image 2.3
example of regular display

In this case, please set LDU2000 parameters according to the following steps.

A Input the number of the connecting controller in the Tiles Count （20）

B：Input synchronous coordinates (The input number is subject to real synchronous position. As for this example, we should input X: 3 Y: 10 here.), and control pixels of ports (Max.1920x340)

C Input corresponding data in Row and Column according to the arrangement of controller.（Row：4 Column：5）

D Input the width and height of each controller in Tile W and Tile H （Tile W :128 Tile H:72）

E Choose corresponding Pattern according to the connecting direction of the controllers.

F Click Send, and send the design to LDU2000.

The parameters setting interface is shown as the following figure.

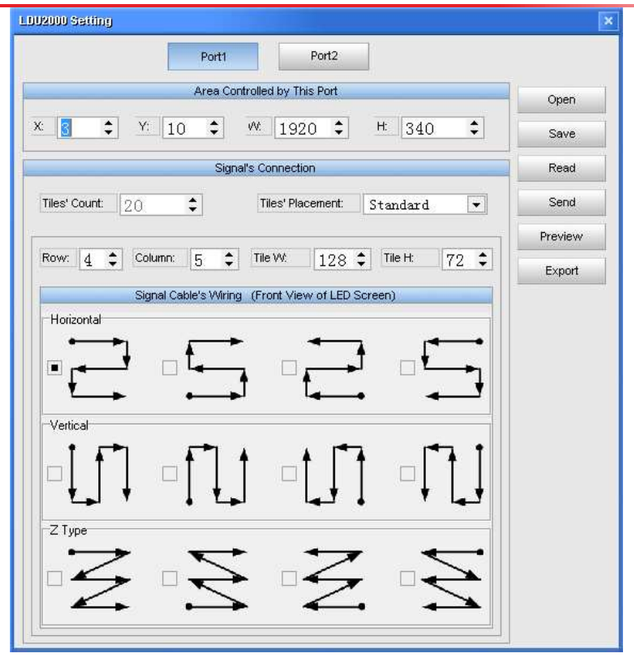


Image 2.4
Coordinate setting of regular display

2.2 Coordinate setting of irregular display

Notes: If every controller control area of different size, and the arrangement of the controllers is irregular (Image 2.5), the software will not be able to automatically determine the coordinate X and Y of every controller. So you need to set the coordinate of every controller manually.

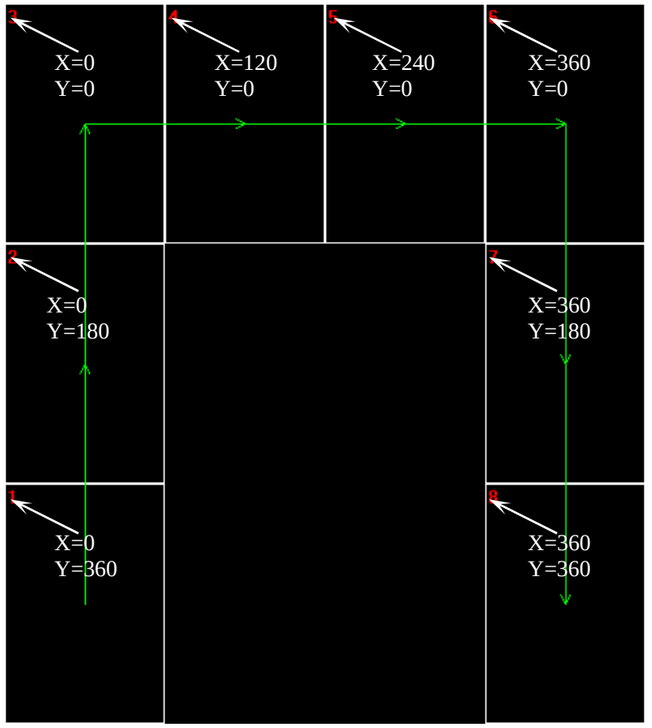


Image 2.5

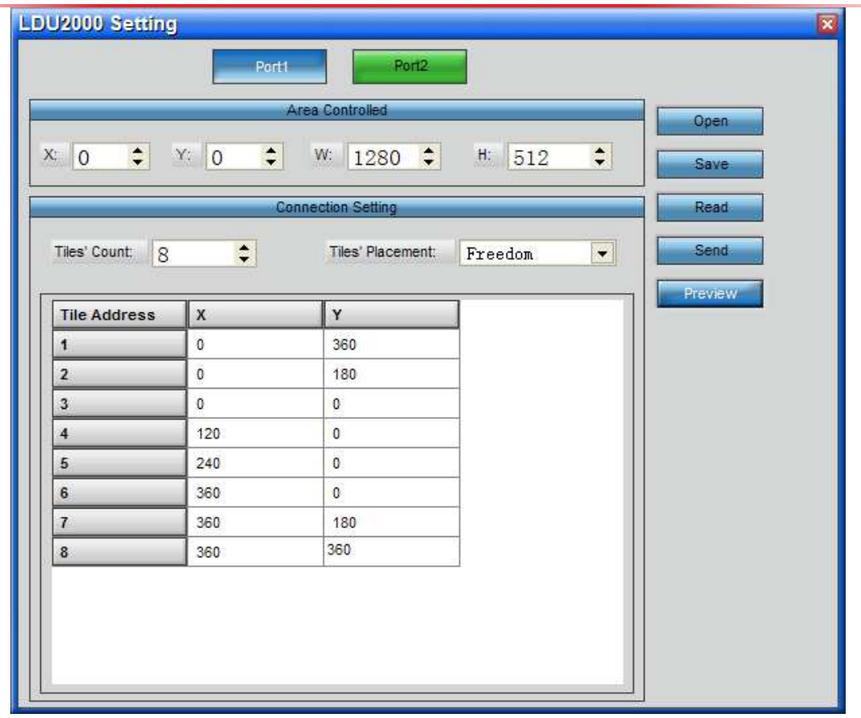


Image 2.6 coordinates setting of irregular display

The setting steps are as follow:

A Draw a picture like Image 2.5 according to the reality, adjust the coordinate X and Y of every controller.

B Input the number of connecting controller in Tiles' Count.

C Choose Rectangle in Tiles' Placement.

D Input the coordinate of every controller in the table.

E Click Send, send the design to LDU2000.

2.3 Installation and setting for irregular display

Run iMPOSA Tools software, click Tool / LDU2000 Setting:

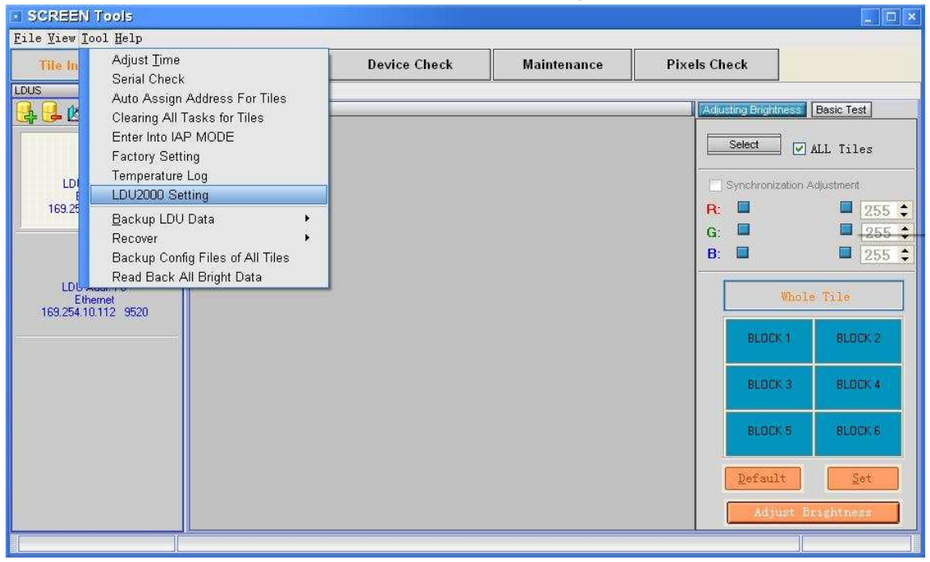


Image 2.7

After entering the LDU2000 setting interface, please click OPEN button to insert the setting file (tg.cnt) which will be provide by manufacturer into the program. In AREA CONTROLLED, the setting should be:

X：0

Y：0

W：1280 or higher

H：205

In connection setting, the setting should be:

TILES'COUNT：23

TILES'PLACEMENT：FREEDOM

For PORT1 & PORT2, setting needs to be the same

Notes:

(1) Due to irregular display's special structure, we will show the irregular display shape by covering some parts, that is to say, the outlying LED modules are not installed.

(2) Because of our design, the width coordinate (X) of control box, every control box's width is set to 144 pixels, that means even the actual width pixels are not up to 144 pixels, the resolution will be taken as 144 pixels. For height coordinate (Y) of control box, you can calculate according to the actual pixels.

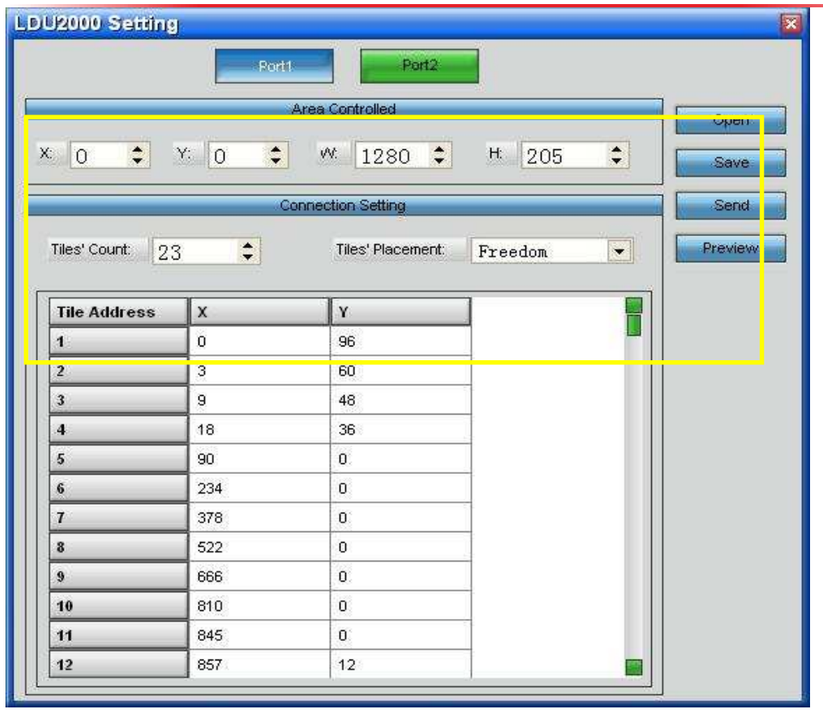


Image 2.8

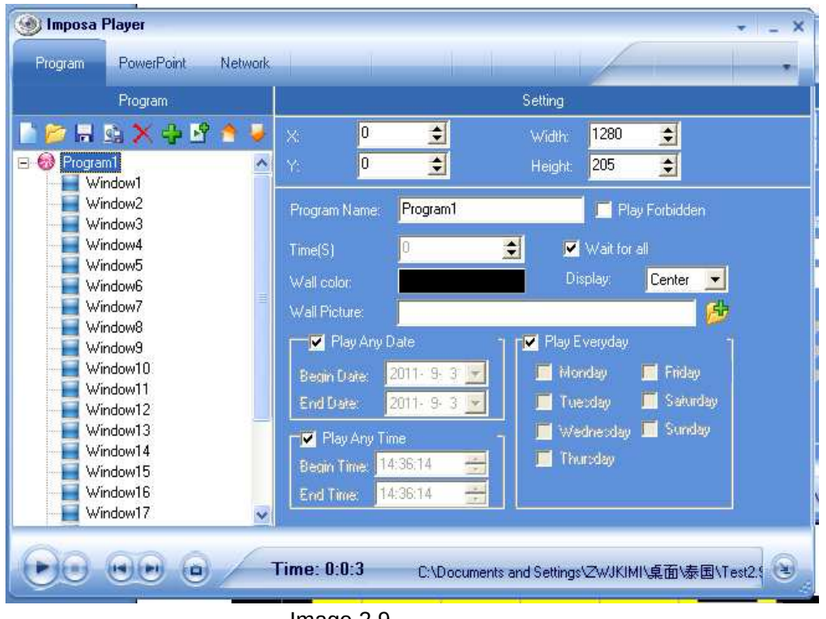


Image 2.9

If the display position is not correct, please use iMPOSA Player software to do download the remedy files including 23 pcs PMG pictures & tg.SYL file.

After finish downloading files, click button. The interface will show yellow parts with red

frame line which is taken control box as quantity units.

Take the following picture as an example, this display is showed at the LED sign's left hand side, you will see the red frame is a line consist of pixels. Please count how many pixels before the red dot and how many pixels above the red dot.

If there are 3 red pixels before the red line, the X coordinate should be input "X-3", likewise, if there is one pixel above the red line, the Y coordinate should be input "Y-1".

Click the button again to see whether the display position is correct or not. If the display position is correct, please modify the tile address's X & Y coordinates.

Image 2.10

Control range for 23 pcs control boxes.

After adjustment

Reference value (the value of X & Y in the pictures are for reference only, the actual value may be slightly different)

PORT1（1-12）

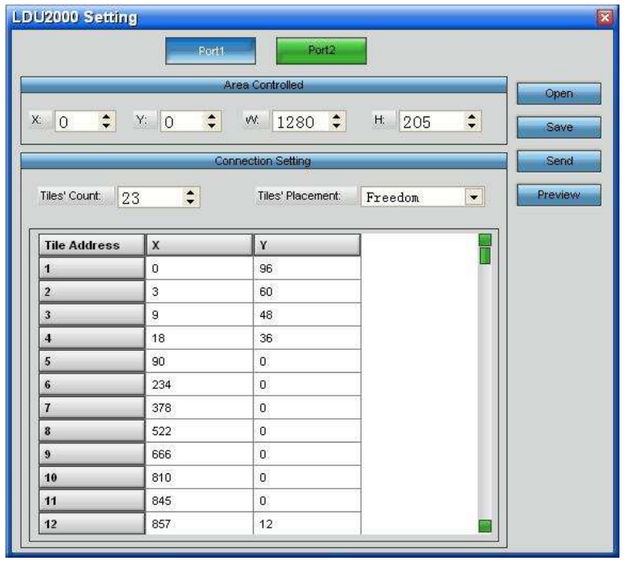


Image 2.11

PORT1（12-23）

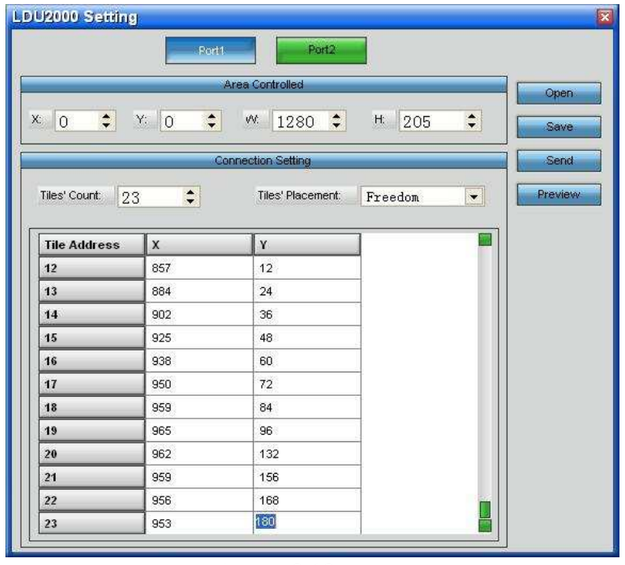


Image 2.12

PORT2（1-12）

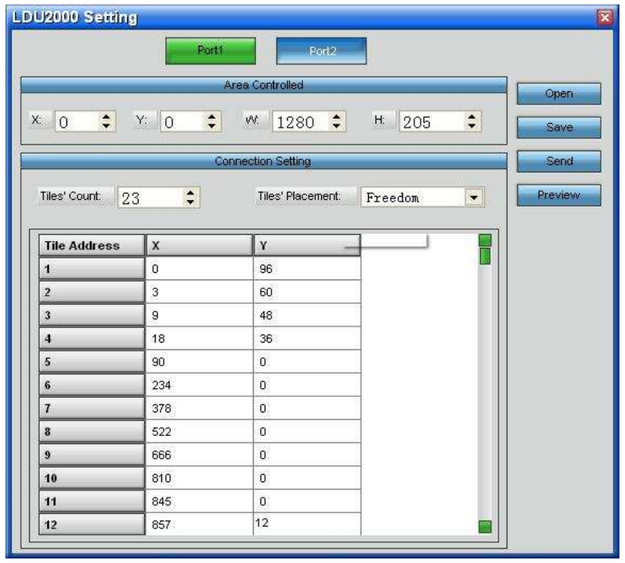


Image 2.13

PORT2（12-23）

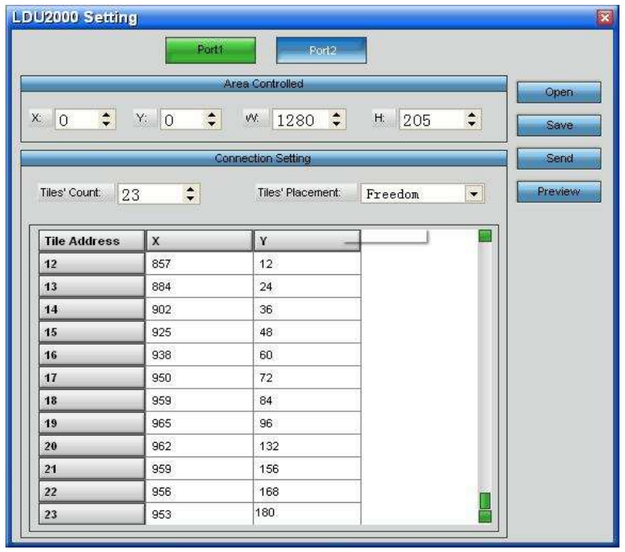


Image 2.14

2.4 Brightness adjustment

Choose Manual in Bright Mode, input the wanted brightness value in Manual Adjust, and click Send.

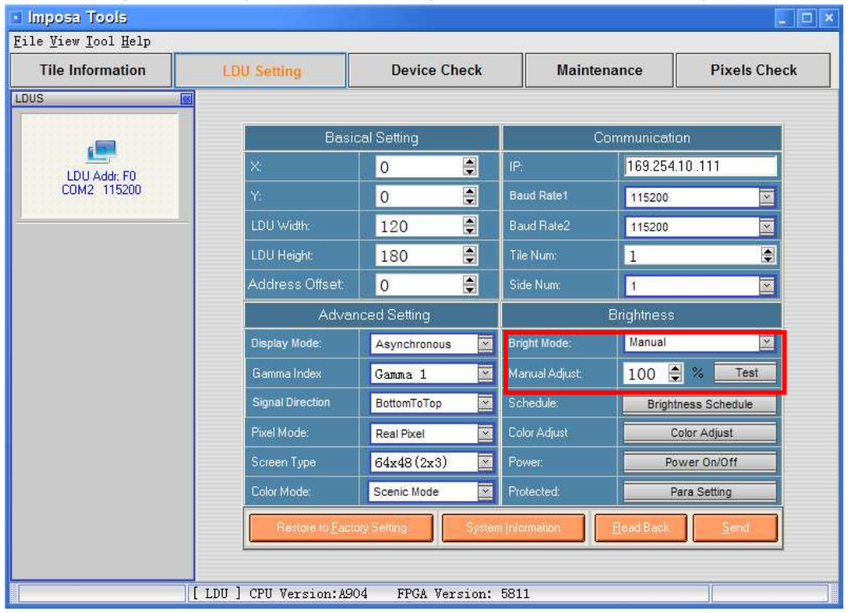


Image 2.15

2.5 Color temperature adjustment

First click Color Adjust and open the color temperature adjusting interface.

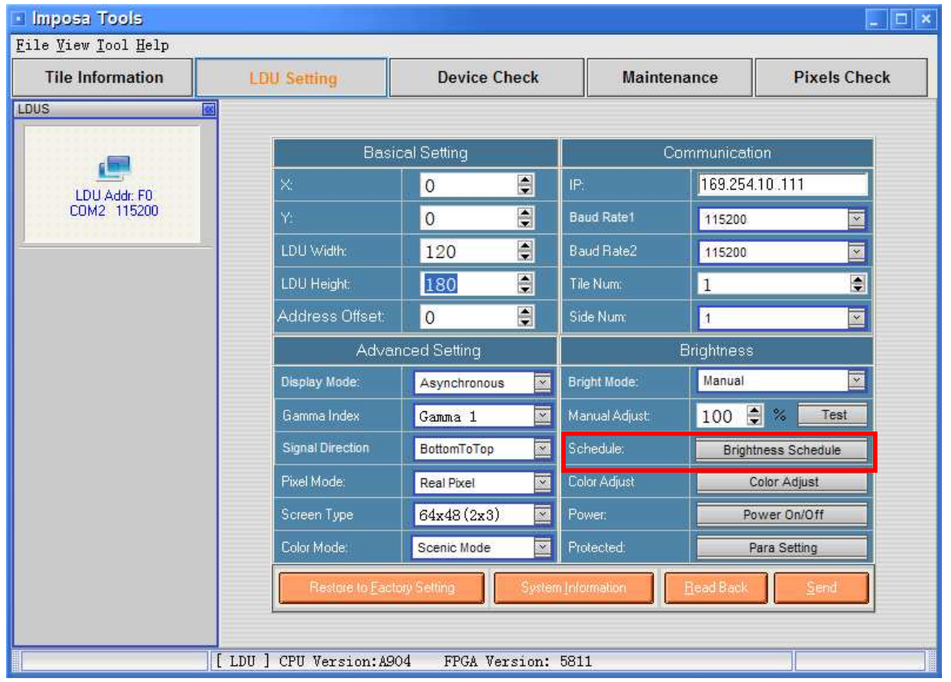


Image 2.16 Open the adjusting interface of color temperature

Drag the slider to adjust the brightness value of R,G,B, you will get the effect immediately. When you get the effect you want, please click Save to 9300,Save to 6500, Save to Preset. And then click OK to close the adjusting interface of color temperature. In the end, click Send in LDU Setting, and send the adjustment to the LDU.

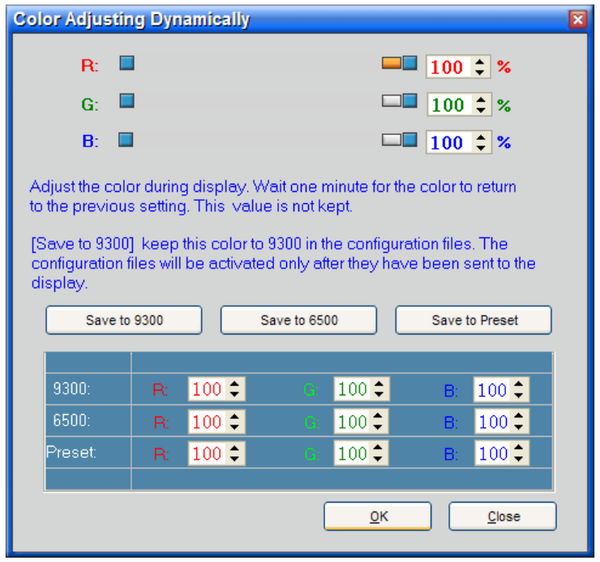


Image 2.17 color temperature adjustment interface